

The committee's program calls for the use of about 23,000 test plates of copper, tin, zinc, bronze and similar metals and alloys over a period of 25 years. The Society estimates that during the past five years cooperating companies contributed more than \$175,000 to the work as materials, special testing equipment, labor and funds.

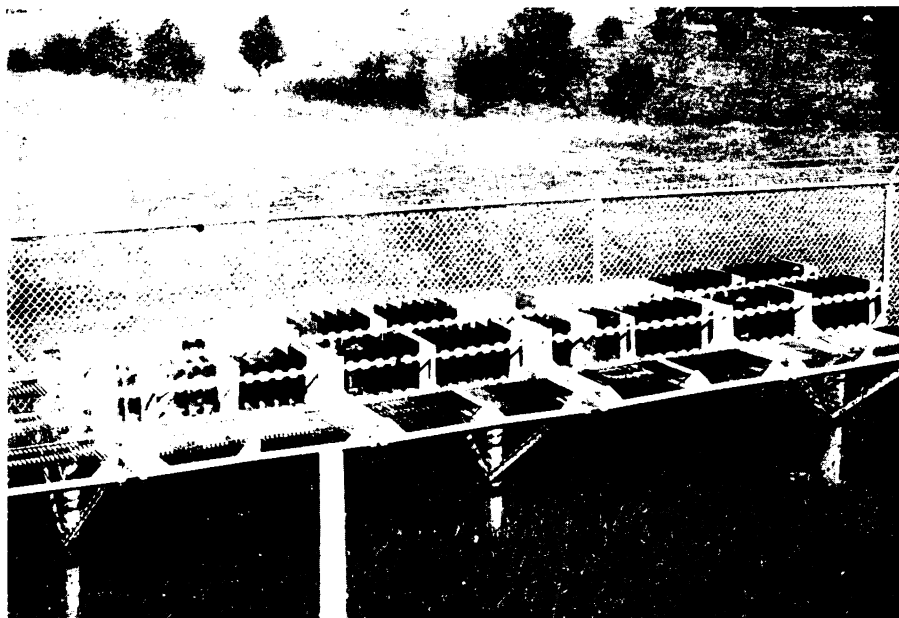
The most extensive division of the program, which makes use of the greater part of the 23,000 specimens, studies atmospheric corrosion. Test plates of different metals are exposed to the atmosphere in various parts of the country.

Rural, Salty or Contaminated

The effect of rural atmosphere is being recorded on plates in open fields at State College, Pa., and Phoenix, Ariz. Seacoast air sometimes blows salt spray over the metals at Sandy Hook, N. J., and Key West, Fla. High humidity exerts its effect at Rochester, N. Y., and La Jolla, Calif., while contaminated industrial atmosphere surrounds plates at New York City and Altoona, Pa.

The results of weathering under these conditions are studied at definite intervals during the years of exposure by determining the change in weight of the plates and their loss of strength and ductility. A part of this work is being done at the U. S. Bureau of Standards in Washington under the direction of H. S. Rawdon, chief of the Division of Metallurgy.

Science News Letter, September 17, 1932



ON QUARTER-CENTURY TEST

Scientists are learning from these plates of non-ferrous metals exposed to the weather at State College, Pa., how to save a part of the millions lost each year through the corrosion of such metals in industry.

ASTRONOMY

Two Huge Telescopes Are Planned for United States

80-Inch Reflecting Instrument Will Be Built in Texas by Two Universities; Harvard Prepares For 61-Inch Mirror

A NEW ASTRONOMICAL observatory, equipped with an eighty-inch reflecting telescope, will rise upon the summit of a peak of the Davis mountains in western Texas within the next six years as the joint creation of the University of Chicago and the University of Texas, and the largest telescope in Eastern United States, a sixty-one-inch reflector, will soon be installed in the new Oak Ridge station of the Harvard College Observatory.

The new observing post of the stars in Texas will be one of the world's finest and it will be named the McDonald Observatory after William J. McDonald who left a bequest to the University of Texas. The University of Chicago will staff the observatory, and Dr. Otto Struve of the Yerkes Observatory at Williams Bay, Wis., will divide his time directing both observatories. The University of Texas will erect and maintain the McDonald Observatory.

The Davis mountains where the McDonald Observatory will be located have

ideal observing conditions. The University of Chicago is cooperating with the University of Texas in the new observatory because of the need of an observing point in the south companion to the Yerkes Observatory.

Cornerstone for the new Oak Ridge station to house the Harvard instrument was laid as a part of the ceremonies of the International Astronomical Union. It is located twenty-six miles from Cambridge near the town of Harvard, Mass.

To Reach All of Sky

The new telescope will be the fourth largest in the world. It will supplement the sixty-inch reflecting telescope now being erected at the other Harvard observing station in South Africa. The South African telescope will be the largest in the southern hemisphere. With the two instruments, the Harvard astronomers will be able to reach all parts of the sky.

The new eighty-inch reflecting telescope for Texas will be exceeded in size only by the hundred-inch mirror now on Mt. Wilson, Calif., and the projected 200-inch telescope planned for southern California by the California Institute of Technology.

This instrument will be the most powerful in the world for some purposes. Dr. Struve explained that for the photography of faint nebulae and distant universes it will be as powerful as the 100-inch telescope on Mt. Wilson, now the world's largest. For other special tasks it will be even more powerful.

"It is not, however, our intention to surpass the remarkable performance of the Mt. Wilson telescope," Dr. Struve stated, "but rather do we hope to supplement it and to develop such features which, for one reason or another, are omitted at Mt. Wilson. It is our desire to make our work supplementary to that of other institutions and to avoid duplication of any sort."

The concave mirror on which the starlight falls will be 80 inches in diameter, and the beam will be focussed 27 feet above. (Turn to Page 184)

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served in ancient layers; meaning by that, that if they have not been yet found in a living state, it is because they inhabit depths beyond the reach of our nets.

Certainly naturalists have not yet traversed every continent, and do not even know all the quadrupeds which inhabit the countries over which they have traveled. New species of this class are from time to time discovered; and those who have not attentively examined all the circumstances of these discoveries, might believe also that the unknown quadrupeds whose bones are found in our layers have remained concealed to the present time in some islands not yet discovered, or in some of the vast deserts which occupy the middle of Asia, Africa, the two Americas, and New Holland.

However, if we examine what species of quadrupeds have been recently found, and in what circumstances they have been discovered, we shall see that there is but little hope of ever finding those that we have only seen as fossils.

Science News Letter, September 17, 1932

(From Page 177)

The mounting of the McDonald telescope will be similar to that of the 72-inch reflector at Victoria, B. C., and the 69-inch at the Perkins Observatory, Delaware, Ohio, with a long axis in the north and south line, supported between two concrete piers, and inclined at an angle equal to the latitude of the observatory. This turns from east to west once a day to compensate for the motion of the earth. Another axis at right angles to this, and supported in its middle, permits the instrument to move in a north and south direction. The new instrument will differ from those at Victoria and Delaware, however, in that it will be possible to bring the starlight, concentrated by the telescope, into a closed room of constant temperature where it can be analyzed by spectroscopes and other instruments capable of use only in a physical laboratory. Such instruments cannot ordinarily be attached to the moving end of a telescope. A similar arrangement is possible with the two great telescopes at Mt. Wilson.

Dr. Struve has listed the following problems which the new telescope is expected to attack:

The study of the chemical composition of the atmosphere of the stars.

The study of the properties of matter exposed to temperatures ranging from 3,000 to 50,000 degrees or more.

The study of distant universes, which involves a test of the Einstein theory.

The study of the composition of gaseous nebulae, of comets, planets, etc.

The new observatory is made possible by the bequest of the late William J. McDonald of Paris, Texas, who died in 1926 and left to the University of Texas a fund now slightly in excess of \$840,000 for an astronomical observatory. The University of Texas will own the McDonald Observatory but the University of Chicago will provide the staff. Its program will be coordinated with that of the present Yerkes Observatory.

Science News Letter, September 17, 1932

SEISMOLOGY

Colima Earthquake Located Off Mexican West Coast

THE EARTHQUAKE that shook the city of Colima, Mexico, on Wednesday evening, Sept. 7, originated at sea a short distance off the coast, the U. S. Coast and Geodetic Survey stated after examining reports from seismological observatories transmitted through Science Service. The epicenter was in latitude 18 degrees north, longitude 105 degrees west. Time of origin was 8:41 p. m. eastern standard time.

Science News Letter, September 17, 1932

Two complete test laboratories, applying the most up-to-date methods of grocery store management, are being set up in Philadelphia by the grocery trade interests of the city in cooperation with the U. S. Commerce Department.



The Science Service radio address next week will be on the subject,

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SCIENCE IN FOOD PRODUCTION

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by

Dr. R. A. Pearson

D

President of Maryland University

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at 1.15 P. M., Eastern Standard Time

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